QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

Experimental Researches on the Biliary Secretion.

Dr. D. Baldi has recently undertaken a series of experiments on the process of secretion of the bile in the laboratory of M. Luciani, of Florence, in which he has endeavored to ascertain whether it takes place in a uniform manner in accordance with the presence or absence of food in the alimentary canal, and whether it varies materially with the nature of the food. The results are given in the third volume of the *Archives Italiennes de Biologie.* A biliary fistula was first made, the ductus communis choledochus being ligatured so that no bile entered the duodenum. Dr. Baldi found that there was a singular irregularity in the quantity of the secretion formed, distinguishing the function of the liver from all other digestive secreting organs. Not only was there great variation in the absolute quantity secreted, but the composition of the bile differed remarkably at different periods after a meal. Speaking broadly, in an animal that has been supplied with food, there is an augmentation in the total quantity of bile secreted in the course of some hours, as compared with the quantity secreted in the course of some hours, as compared with the quantity secreted in the same time by the animal when fasting. It is not possible, however, to fix the time at which the secretion of bile after food is at its maximum; indeed, it is even possible that the maximum may be attained during some one hour when the animal is fasting. Different kinds of food, starches, proteids, fats, and mixed foods, have no appreciable effect on the quantity or quality of the bile. If we consider, in addition, that, unlike the other secretions which are poured into the intestinal tract, the bile continues to be secreted in prolonged fasting, as has been demonstrated by various experiments, we shall be led to the conclusion that this fluid, from a physiological point of view, has more analogy with urine than with the other digestive fluids. In a second series of researches, in which the effects of reputed cholagogue drugs were investigated, Dr. Baldi is not in accord with either Röhrig or with Rutherford. Röhrig found that colocynth was the most active cholagogue; then, in succession, jalap, aloes, senna, and rhubarb. Rutherford considered the order to be—podophyllin, rhubarb, aloes, colocynth, senna, and other drugs. Baldi experimented with podophyllin, rhubarb, jalap, sodium, phosphate, pilocarpine, and Carlsbad water, and from his results, feels inclined to doubt altogether the cholagogue value of all these substances. He admits, however, that the presence of a biliary fistula seriously interferes with the action of remedies. Dr. Baldi undertook still another series of experiments, to determine whether bile injected into the blood was excreted by the liver. The animal employed was a dog. The bile injected was that of the ox, deprived of mucus. Dog bile is brown; ox bile green. Almost immediately after the injection of ox bile the color of the bile secreted by the dog became green.—*Lancet*, November 29, 1884.

Modifications of the Blood during Pregnancy.

COHNSTEIN, in an article on this subject in *Pflüger's Archiv*, Bd. xxiv., Heft 3 and 4, 1884, says that up to the present time authors have not been absolutely in accord as to the modifications which take place in the blood during pregnancy. He made a series of experiments on pregnant and non-pregnant ewes, using the apparatus of Hayem and Malassez, modified by Zeif. In the pregnant animals he found a minimum of 8,305,555, a maximum of 10,300,000, a mean of 9,742,222 red corpuscles per cubic centimetre. With this diminution of the red disks in pregnant animals, we would naturally expect a diminution in the percentage of hæmoglobine; but experiments showed that such was not the case. In the pregnant animals the percentage was 7.8; in non-pregnant, 5.5. The percentage, then, is larger in the pregnant state, as is the size of the red globules; thus the smaller number is largely compensated.—*Archives de Tocol.*, November, 1884.

MATERIA MEDICA AND THERAPEUTICS.

Gastro-Intestinal Therapeutics.

In a recent lecture on this subject, Prof. DUJARDIN-BEAUMETZ calls attention to the more recent gastro-intestinal medications, the application of electricity to the treatment of affections of the stomach and intestines, enteroclism and alimentary enemata.

The application of electricity to the treatment of gastro-intestinal affections is much more extensive now than a few years ago; it may be studied in its applicability to diseases of the stomach, and to those of the intestines. In persistent vomiting and in acute gastralgic pains it is used by Apostoli, who has continued the experiments made by Prof. Semmola in 1861, with continuous currents. He used in these cases what he calls positive polar galvanism of one of the pneumogastrics. It is carried out in the following manner: The positive electrode is placed external to the sternal end of the clavicle, on a level with the upper surface of the bone, just at the point marked by the depression between the clavicular insertions of the sterno-mastoid muscle. This electrode is made of a piece of carbon covered with chamois skin, the skin being moistened; the other electrode is a roller which the patient holds in his hand. A continuous current is then furnished by a Gaiffe or Trouvé battery. The quantity varies between five and fifteen milli-ampères, and should be such that the epigastric pain disappears under its influence; the current being continued until all painful or spasmodic phenomena disappear, this requiring from ten to twenty minutes, or longer. For vomiting, Dr. Apostoli recommends that the galvanism be commenced while the stomach is empty; the patient should then eat something during the galvani-